REMARKS

This is in response to the Notice of Non-Responsive Reply mailed 3/21/2008, the interview of 05/01/2008, and in view of the Final Office Action mailed 3/20/2007, and further in view of the Request for Continued Examination (RCE) filed 6/21/2007.

Applicants are particularly thankful to Examiner Betit for identifying clarifying amendments that would overcome the 35 U.S.C. §112 and §101 issues pending from the previous office action of 03/20/2007. Applicants have made the suggested amendments and based on the interview of 05/01/2008, these clarifying amendments should overcome the pending 35 U.S.C. §112 and §101 rejections.

This response should obviate outstanding issues and make the pending claims allowable. Reconsideration of this application is respectfully requested in view of this response.

STATUS OF CLAIMS

Claims 1-31 are pending.

Claims 2, 3, 13, 14, 15, 16, 19, 20, and 21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

Claims 1-31 stand rejected under 35 U.S.C. § 101.

Claims 1-3, 6-9, 11-13, 14, 16-19, 21, 24-26,and 29-31 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. 6,873,995 (Benson).

Claims 4, 5, 10, 15, 20, 22, 23 and 27-28 are rejected under 35 U.S.C § 103(a) as being unpatentable over Benson in view of official notice.

OVERVIEW OF CLAIMED INVENTION

The present invention provides a system and method for implementing support for the XA 2-phase commit protocols in client middleware for a cluster of one or more database servers that use shared disk technology. The present invention's method, as implemented in middleware, comprises the steps of: (a) aiding in receiving an invocation from a client for a first phase of commit for a transaction representing a unit of work; (b) inserting an entry in a relational table corresponding to the unit of work and transmitting an instruction to the server to prepare to commit for the transaction, wherein the inserted entry indicating the unit of work is potentially an indoubt entry; (c) receiving a request from the client, and if the received request is a commit or rollback decision: communicating with a server and processing the commit or rollback request, and upon successful processing, deleting an entry corresponding to the commit or rollback request in the relational table, else if the received request is a recover decision: querying the relational table to identify a list of indoubt units of work; transmitting the list of indoubt units of work to the client; receiving a commit or rollback decision from the client; communicating with the server to process the commit or rollback request, and upon successful processing, and deleting a corresponding entry in the relational table.

The present invention provides support for the XA 2-phase commit protocols without requiring the target database system to understand the XA 2-phase commit protocol. This is accomplished by mapping the XA 2-phase commit protocols onto other 2-phase commit

protocols that the database server does support (such as the non-XA 2-phase commit protocols that are defined in DRDA). Furthermore, the system and method allow the client system to fully support the XA RECOVER command in the instance that one or more members in the database server cluster are unavailable.

The present invention eliminates the need to scan logs of all the database members to produce a list of indoubt units of work for the XA RECOVER command and also eliminates the need for client-side logging in the database middleware when the DB2 server does not support XA protocols natively. Based upon the teachings of the present invention, the XA transaction manager and database middleware are able to issue the XA RECOVER command from any computer in the network (with no dependency on issuing RECOVER from the same computer in the network or the same IP address in the network).

35 U.S.C. §101 and §112 REJECTION

An Examiner interview was held on 05/01/2008 with Examiner Betit. Applicants are particularly thankful to Examiner Betit for identifying clarifying amendments that would overcome the 35 U.S.C. §112 and §101 issues pending from the previous office action of 03/20/2007. Applicants have made the suggested amendments and based on the interview of 05/01/2008, these clarifying amendments should overcome the pending 35 U.S.C. §112 and §101 rejections.

35 U.S.C. §102 and §103 REJECTIONS

Benson et al., also assigned to IBM, teaches a method of managing a content management system, said content management system being configured and controlled to begin a transaction and create an item at a client, establish a connection between the client and a library server, generate a transaction identifier and insert a record for the transaction in a tracking table associated with the library server, pass transaction data from the client to a resource manager, process the transaction at the resource manager and record transaction data in a tracking table associated with the resource manager, return transaction success/failure data to the client, compare activity recorded in the tracking tables, and take corrective action based upon the activity comparison.

Benson fails to teach claim 1's feature of "inserting an entry in said relational table corresponding to said unit of work and transmitting an instruction to said server to prepare to commit for said transaction, said inserted entry indicating said unit of work is potentially an indoubt entry". In fact, Benson teaches away from the invention by using two tables and further

makes no mention of indoubt entries. For example, see column 12-29 of Benson, which is reproduced below:

"The Library Server Tracking Table (LS TT) is created by the SQL command set shown in FIG. 2, and includes two tables organized as a 2-level hierarchy.

1. TxTbl: [TXID (PK), Status ("I" or "C"), CommitTimestamp]--A row with Status="I" is inserted by each (lazy) begin transaction, BEGTRAN. An end transaction, ENDTRAN(commit) changes "I" to "C", sets CommitTimestamp, and commits the relational database transaction on LS. An end transaction, ENDTRAN(rollack) rolls back the relational database transaction, including the record inserted by begin transaction, BEGTRAN.

2. TxRMTbl: [TxID (non-null FK to TxTbl), Rmid]--A row is inserted by end transaction, ENDTRAN(commit) for each RM updated by the respective transaction." (emphasis added).

It should be noted that the Benson reference teaches two tables to keep track of transactions, however, the Examiner's citation, and the entire Benson reference is silent about indoubt entries. The Examiner is reminded that pending claims 32 and 43, for instance, specifically recite "a relational table storing indoubt entries" "inserting an entry in said relational table corresponding to said unit of work and transmitting an instruction to said server to prepare to commit for said transaction, said inserted entry indicating said unit of work is potentially an indoubt entry".

Further, independent claim 12 teaches a software facilitating communication between a database cluster and a transaction manager, wherein the software "creates an SQL table for storing a list of potential *indoubt units of work*" and updates the SQL table of indoubt entries after execution of a COMMIT, ROLLBACK, or a RECOVER. Benson, as detailed above, in its entirety lacks a teaching or suggestion for such features.

Also, independent claim 26 teaches an article of manufacture having computer readable program code implementing a first software module invoked to create a relational table in said server to store potential *indoubt units of work*. Claim 26 also teaches for computer readable program code implementing a second module invoked to insert or delete *indoubt entries of work* in said relational table, wherein insertions of indoubt entries are performed if an invocation is received from said client for a first phase of commit for a transaction representing a unit of work; and wherein deletions of indoubt entries are performed upon successful processing of a commit or rollback decision. Benson in its entirety lacks a teaching or suggestion for such features.

Hence, at least for the reasons set forth above, the Examiner is requested to withdraw the 35 U.S.C. §102 (e) rejections with regards to the independent claims 1, 12, and 26. The same arguments also substantially apply to pending dependent claims 2-11, 13-25 and 27-31 as they inherit all the features of the claim from which they depend. Therefore, the Examiner is respectfully requested to withdraw the 35 U.S.C. §103(a) rejections with regards to dependent claims 2-11, 13-25 and 27-31.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of Applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

This response is being timely filed with a one-month extension of time fee. If additional deficiencies are found, the Commissioner is hereby authorized to charge such deficiencies in the fees provided to Deposit Account No. 09-0460.

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact Applicants' representative at the below number.

Respectfully submitted,

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